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EXAMINER	
HANNETT, JAMES M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No. 09/256,411	Applicant(s) TANAKA, TAEKO	
	Examiner James M Hannett	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,16-18,20,21,23-25 and 27-29* is/are rejected.

7)☒ Claim(s) *15, 19, 22, and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 February 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 4/28/2003 have been fully considered but they are not persuasive.

706.02(l)(1) [R-1] Rejections Under 35 U.S.C. 102(e)/103; 35 U.S.C. 103(c) 35 U.S.C. 103. Conditions for patentability; non-obvious subject matter.

(c) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person." <u>This change to 35 U.S.C. 103(c) applies to all utility, design and plant patent applications filed on or after November 29, 1999</u>, including continuing applications filed under 37 CFR 1.53(b), continued prosecution application filed under 37 CFR 1.53(d), and reissues. <u>The amendment to 35 U.S.C. 103(c) does not affect any application filed before November 29, 1999</u>, a request for examination under 37 CFR 1.129 of such an application, nor a request for continued examination under 37 CFR1.114 of such an application. >The Intellectual Property and High Technology Technical Amendments Act of 2002 (Pub. L. 107-273, 116 Stat. 1758 (2002) did not further amend the exclusion under 35 U.S.C.103(c) as amended on November 29, 1999.<

The mere filing of a continuing application on or after November 29, 1999, with the required evidence of common ownership, will serve to exclude commonly owned 35 U.S.C. 102(e) prior art that was applied, or could have been applied, in a rejection under 35 U.S.C. 103 in the parent application. For reissue applications, the doctrine of recapture may prevent the presentation of claims that were cancelled or amended to overcome such prior art applied in the application which matured into the patent for which reissue is being sought. The recapture doctrine prevents the presentation of claims in reissue applications that were amended or cancelled from the application which matured into the patent for which reissue is being sought, if the claims were amended or cancelled to distinguish the claimed invention from 35 U.S.C. 102(e)/103 prior art which was commonly owned or assigned at the time the invention was made. 35 U.S.C. 103(c) applies only to prior art usable in an obviousness rejection under 35 U.S.C. 103. Subject matter that qualifies as anticipatory prior art under 35 U.S.C. 102, including 35 U.S.C. 102(e), is not affected, and may still be used to reject claims as being anticipated. The burden of establishing that subject matter is disqualified as prior art is placed on applicant once the examiner has established a prima facie case of obviousness based on the subject matter. See MPEP § 706.02(l)(2) for information regarding establishing common ownership. See MPEP § >706.02<(l)(3) for examination procedure with respect to 35 U.S.C. 103(c). Non-statutory and statutory double patenting rejections, based on subject matter now disqualified as prior art in amended 35 U.S.C. 103(c), should still be made as appropriate. See MPEP § 804.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,331,367 Kawasaki et al in view of US-PGPUB 2002/0109784 Suda et al.

As for Claim 1, Kawasaki et al teaches in the abstract an image sensing method. Kawasaki et al teaches the use of a power zoom lens having a zoom mechanism. Kawasaki et al teaches the use of a shutter mechanism for controlling the shutter speed of a camera which upon changing the shutter speed changes the amount of time charge will be allowed to be accumulated or stored on an image sensing element. Kawasaki et al teaches on Column 59, Lines 50-63 the use of a control step of mid-exposure zooming in that a zooming speed is selected in accordance with the exposure time or shutter speed.

Kawasaki et al does not teach the use of a camera that has a focusing step that performs a focusing operation during a zooming operation so that an in focus state can be achieved while zooming.

Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0032] the use of signal extraction means for extracting a peak value of a luminance component in an image-sensing signal. Suda et al teaches in the abstract the use of evaluation value calculating means for averaging sharpness signals during a zooming operation to calculate

a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Kawasaki et al to perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens as taught by Suda et al in order to enable a user to view an in focus image while zooming.

As for Claim 2, Kawasaki et al teaches on Column 59, Lines 50-63 the control step of mid-exposure zooming varies the zoom speed when the exposure time is longer than a predetermined time. Therefore, because shutter speed increases as exposure time decreases the process of controlling to decrease the zoom speed occurs when the shutter speed is not more than a predetermined value. Kawasaki et al teaches that the zoom speed is varied by adding a delay equal to one half of the exposure time. Therefore, decreasing the zoom speed when the shutter speed is not more than a predetermined value.

As for Claim 3, Claim 3 is rejected for reasons discussed related to Claim 1, since Claim 1 is substantively equivalent to Claim 3.

As for Claim 4, Claim 4 is rejected for reasons discussed related to Claim 2, since Claim 2 is substantively equivalent to Claim 4.

In regards to Claim 5, Kawasaki et al teaches in the abstract an image sensing method. Kawasaki et al teaches the use of a power zoom lens having a zoom mechanism. Kawasaki et al teaches on Column 6, Lines 40-60 the use of a focus adjustment for correcting movement of a focus plane upon movement of a zoom lens by using a focus lens. Kawasaki et al teaches on Column 6, Lines 40-60 a driving step of independently moving a zoom lens and a focus lens

parallel to an optical axis since the automatic focus lens and zooming lens are controlled by independent motors. Kawasaki et al teaches on Column 5, Lines10-14 the selection step of selecting a charge storage time or shutter speed on the basis of information including the photometric signal and film speed, of an image-sensing element. Kawasaki et al teaches the use of a shutter mechanism for controlling the shutter speed of a camera which upon changing the shutter speed changes the amount of time charge will be allowed to be accumulated or stored on an image sensing element. Kawasaki et al teaches on Column 59, Lines 50-63 the use of a control step of mid-exposure zooming in that a zooming speed is selected in accordance with the exposure time or shutter speed.

Kawasaki et al does not teach the use of a camera that has a focusing step that performs a focusing operation during a zooming operation so that an in focus state can be achieved while zooming.

Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0032] the use of signal extraction means for extracting a peak value of a luminance component in an image-sensing signal. Suda et al teaches in the abstract the use of evaluation value calculating means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Kawasaki et al to perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens as taught by Suda et al in order to enable a user to view an in focus image while zooming.

In regards to Claim 6, Kawasaki et al teaches on Column 59, Lines 50-63 the control step of mid-exposure zooming varies the zoom speed when the exposure time is longer than a predetermined time. Therefore, because shutter speed increases as exposure time decreases the process of controlling to decrease the zoom speed occurs when the shutter speed is not more than a predetermined value. Kawasaki et al teaches that the zoom speed is varied by adding a delay equal to one half of the exposure time. Therefore, decreasing the zoom speed when the shutter speed is not more than a predetermined value.

As for Claim 7, Claim 7 is rejected for reasons discussed related to Claim 5, since Claim 5 is substantively equivalent to Claim 7.

As for Claim 8, Claim 8 is rejected for reasons discussed related to Claim 6, since Claim 6 is substantively equivalent to Claim 8.

As for Claim 9, Claim 9 is rejected for reasons discussed related to Claim 1, since Claim 1 is substantively equivalent to Claim 9.

As for Claim 10, Claim 10 is rejected for reasons discussed related to Claim 2, since Claim 2 is substantively equivalent to Claim 10.

As for Claim 11, Claim 11 is rejected for reasons discussed related to Claim 5, since Claim 5 is substantively equivalent to Claim 11.

As for Claim 12, Claim 12 is rejected for reasons discussed related to Claim 6, since Claim 6 is substantively equivalent to Claim 12.

Claims 13,14, 16-18, 20, 21, 23-25, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US-PGPUB 2002/0109784 Suda et al in view of USPN 5,587,737 Sekine et al.

As for Claim 13, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches in the abstract the use of evaluation value calculating means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means. Suda et al teaches the use of zoom speed detection means to detect a speed of a zoom lens.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the speed of the zooming operation.

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is

equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera zoom operation, the exposure time for the camera would be decreased to prevent blurring and therefore, the time duration which the sharpness signals are averaged would be changed in accordance with the speed of the zoom operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the movement detection and correction means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera zoom lens.

As for Claim 14, Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, the averaging time or exposure time is shortened when the zoom speed or detected motion is high, and prolonged when the zoom speed or detected motion is low.

In regards to Claim 16, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness

signal. Suda et al teaches on Paragraph [0032] the use of signal extraction means for extracting a peak value of a luminance component in an image-sensing signal. Suda et al teaches in the abstract the use of evaluation value calculating means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with an object illuminance obtained from the luminance signal.

Sekine et al teaches on Column 2, Lines 10-17 that if an object has a low luminance signal, a long exposure time is set to obtain a sufficiently high signal to noise ratio. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that has a low luminance signal, the exposure time for the camera would be increased to obtain a sufficiently high signal to noise ratio and therefore, the time duration over which the sharpness signals are averaged would be changed in accordance with the illuminance obtained from the luminance signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the luminance detection and correction means of Sekine et al in order to obtain a sufficiently high signal to noise ratio when the object in the field of view has a low luminance signal.

As for Claim 17, Sekine et al teaches on Column 2, Lines 10-17 that if an object has a low luminance signal, a long exposure time is set to obtain a sufficiently high signal to noise ratio. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that has a low luminance signal, the exposure time for the camera would be increased to obtain a sufficiently high signal to noise ratio and therefore, the averaging time of the sharpness signals is shortened when the luminance signal is high and lengthened when the luminance signal is low.

As for Claim 18, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens while maintaining an in-focus state of a focus lens. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches in the abstract the use of evaluation value calculating means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Suda et al does not teach the use of Shake detection means for detecting a shake of a camera. Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the information from a shake detection means.

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera shaking, the exposure time for the camera would be decreased to prevent blurring and therefore, the time duration which the sharpness signals are averaged would be changed in accordance with the movement detected by the shake detection means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the shake detection and correction means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera.

As for Claim 20, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal.

Suda et al teaches the use of zoom speed detection means to detect a speed of a zoom lens. Suda et al teaches in Paragraph [0028] the use of memory means for storing data representing a positional relationship between the zoom lens and the focus lens. Suda et al

teaches in Paragraph [0028] the use of speed calculation means for determining a driving velocity of the focus lens on the basis of information stored in the memory. Suda et al further teaches the use of speed addition means for adding a compensating velocity to the velocity of the focus lens in order to compensate for a movement of a focus plane caused by the zooming operation of a zoom lens on the basis of the data in memory. Suda et al further teaches that the correction speed to be added to the standard moving speed of the focus lens is calculated on the basis of the focus signal or the magnitude of the focus evaluation value. Suda et al teaches in the abstract the use of focus control means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the speed of the zooming operation.

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera zoom operation, the exposure time for the camera would be decreased to prevent blurring and therefore, the time duration which the sharpness signals are averaged would be changed in accordance with the speed of the zoom operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the movement detection and correction means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera zoom lens.

In regards to Claim 21, Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, the averaging time or exposure time is shortened when the zoom speed or detected motion is high, and prolonged when the zoom speed or detected motion is low.

In regards to Claim 23, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0032] the use of signal extraction means for extracting a peak value of a luminance component in an image-sensing signal. Suda et al teaches in Paragraph [0028] the use of memory means for storing data representing a positional relationship between the zoom lens and the focus lens. Suda et al teaches in Paragraph [0028] the use of speed calculation means for determining a driving

velocity of the focus lens on the basis of information stored in the memory. Suda et al further teaches the use of speed addition means for adding a compensating velocity to the velocity of the focus lens in order to compensate for a movement of a focus plane caused by the zooming operation of a zoom lens on the basis of the data in memory. Suda et al further teaches that the correction speed to be added to the standard moving speed of the focus lens is calculated on the basis of the focus signal or the magnitude of the focus evaluation value. Suda et al teaches in the abstract the use of focus control means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with an object illuminance obtained from the luminance signal.

Sekine et al teaches on Column 2, Lines 10-17 that if an object has a low luminance signal, a long exposure time is set to obtain a sufficiently high signal to noise ratio. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that has a low luminance signal, the exposure time for the camera would be increased to obtain a sufficiently high signal to noise ratio and therefore, the time duration over which the sharpness signals are averaged would be changed in accordance with the illuminance obtained from the luminance signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the luminance detection and correction means of Sekine et al in order to obtain a sufficiently high signal to noise ratio when the object in the field of view has a low luminance signal.

As for Claim 24, Sekine et al teaches on Column 2, Lines 10-17 that if an object has a low luminance signal, a long exposure time is set to obtain a sufficiently high signal to noise ratio. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that has a low luminance signal, the exposure time for the camera would be increased to obtain a sufficiently high signal to noise ratio and therefore, the averaging time of the sharpness signals is shortened when the luminance signal is high and lengthened when the luminance signal is low.

In regards to Claim 25, Suda et al teaches in the abstract the use of an image sensing apparatus in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches in Paragraph [0028] the use of memory means for storing data representing a positional relationship between the zoom lens and the focus lens. Suda et al teaches in Paragraph [0028] the use of speed calculation means for determining a driving velocity of the focus lens on the basis of information stored in the memory. Suda et al further teaches the use of speed addition means for adding a compensating

velocity to the velocity of the focus lens in order to compensate for a movement of a focus plane caused by the zooming operation of a zoom lens on the basis of the data in memory. Suda et al further teaches that the correction speed to be added to the standard moving speed of the focus lens is calculated on the basis of the focus signal or the magnitude of the focus evaluation value. Suda et al teaches in the abstract the use of focus control means for averaging sharpness signals during a zooming operation to calculate a focus evaluation value. Suda et al teaches that the focus evaluation value is calculated in accordance with a plurality of focus detection means.

Suda et al does not teach the use of Shake detection means for detecting a shake of a camera. Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the information from a shake detection means.

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera shaking, the exposure time for the camera would be decreased to prevent blurring and therefore, the time duration which the sharpness signals are averaged would be changed in accordance with the movement detected by the shake detection means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the shake detection and correction

means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera.

As for Claim 27, Suda et al teaches in the abstract the use of an image sensing control method in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches the use of averaging sharpness signals corresponding to a predetermined time. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0028] the use of control means for checking the in-focus state of the camera on the basis of the focus signal and determining a driving velocity of the focus lens based on the focus signal.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the speed of the zoom operation

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera zoom operation, the exposure time for the camera would be decreased to prevent blurring and therefore, the time

duration which the sharpness signals are averaged would be changed in accordance with the speed of the zoom operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the movement detection and correction means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera zoom lens.

As for Claim 28, Suda et al teaches in the abstract the use of an image sensing control method in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches the use of averaging sharpness signals corresponding to a predetermined time. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0028] the use of control means for checking the in-focus state of the camera on the basis of the focus signal and determining a driving velocity of the focus lens based on the focus signal.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with an object illuminance obtained from a luminance signal in the video signal obtained by photographing an object.

Sekine et al teaches on Column 2, Lines 10-17 that if an object has a low luminance signal, a long exposure time is set to obtain a sufficiently high signal to noise ratio. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or

the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that has a low luminance signal, the exposure time for the camera would be increased to obtain a sufficiently high signal to noise ratio and therefore, the time duration over which the sharpness signals are averaged would be changed in accordance with the illuminance obtained from the luminance signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the luminance detection and correction means of Sekine et al in order to obtain a sufficiently high signal to noise ratio when the object in the field of view has a low luminance signal.

As for Claim 29, Suda et al teaches in the abstract the use of an image sensing control method in the form of a camera which can perform a zooming operation of a zoom lens of a first lens group while maintaining an in-focus state of a focus lens of a second lens group. Suda et al teaches the use of averaging sharpness signals corresponding to a predetermined time. Suda et al teaches on Paragraph [0002 and 0153] the use of signal detection means for extracting a high-frequency component from an image-sensing signal obtained by an image-sensing device such as a CCD, and detecting a sharpness signal. Suda et al teaches on Paragraph [0028] the use of control means for checking the in-focus state of the camera on the basis of the focus signal and determining a driving velocity of the focus lens based on the focus signal.

Suda et al does not teach the use of changing the time duration in which the sharpness signals are averaged during the zooming operation in accordance with the information from a shake detection means for detecting a shake of an image sensing appartus.

Sekine et al teaches on Column 2, Lines 10-17 that if an object appears to be moving at a high speed is to be photographed, a high-speed shutter mode is set to prevent blurring of the edge of the object image. Sekine et al teaches on Column 7, Lines 35-40 that the sampling frequency of the shake detection mean or the time duration in which the sharpness signals are averaged is equal to the accumulation time of the image pickup means. Therefore, when the camera detects an object that appears to be moving at a high speed as a result of the camera shaking, the exposure time for the camera would be decreased to prevent blurring and therefore, the time duration which the sharpness signals are averaged would be changed in accordance with the movement detected by the shake detection means.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of Suda et al with the shake detection and correction means of Sekine et al in order to prevent blurring of an image when the object in the field of view appears to be moving at a high rate of speed due to the movement of the camera.

Allowable Subject Matter

Claims 15, 19, 22, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-842-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is 703-308-6789.

James Hannett
Examiner
Art Unit 2612

JMH
June 23, 2003

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600